

Remarks

***Specification and Claim Objections***

Applicant believes that the required corrections to the specification and claims have been made.

***Claim Rejections – 35 USC §112***

Applicant has removed the claim language upon which the rejection is based.

***Claim Rejections – 35 USC §102***

Claims 1-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Luckey (US Patent No. RE. 27,008).

Luckey does not disclose an outer barrel having a tolerance of 0.001 inches or less as per amended claims 1 and 11. Therefore, Luckey does not meet the structure of the claimed end product, as per the new amendment. Moreover, Luckey makes statements that are inconsistent with his outer barrel being centerless ground. For instance, in Col. 2, lines 37-43, Luckey says one end of his outer barrel 11 has “rough or sharp edges,” which is inconsistent with close tolerances. This same sentence of Luckey says the other end is “flame treated.” As discussed in the background (see page 4, lines 2-4) of the application, flame treatment alters the tolerance of the tube and “results in not being able to fit the tube exactly into the fitting thereby causing unacceptable leakage between the fitting and the tube.” If flame treated, then

the tolerances will not be accurate as per Applicant's claim. The end product is clearly not the same.

See also, Luckey Col. 4, lines 5-13. Because Luckey inserts his tube 11 for a one-time usage into the relatively soft material of bag 27 (See Col. 4, lines 9) and tube 31 (See Col. 6, lines 47-50), there is no need for Luckey to use the much more expensive process of centerless grinding to provide the type of fitting used by Applicant. Applicant must be much more careful about the seal. With use for toxic and warfare agents, and repeat usage of the tube within the same or similar fittings, even the smallest leakage could be fatal or dangerous. Lucky provides only a quickly operating one-time device where minor leakage is easily tolerated. The cost for centerless grinding the Lucky tube would be a wasted cost that provides no value or benefits, even if the tolerance were not destroyed. However, the tolerance thereof would be destroyed by the flame heating taught by Luckey. Clearly, Luckey does not centerless grind the Luckey tube, has no motivation or need to do so, and lacks any teaching that would explain how it could be done with flame treatment.

Although the Office Action on page 4, paragraph 3 states that Luckey teaches fusing granules with respect to claims 3, 4, 8, 12-15, Luckey provides no teaching about fusing the inert granules. Instead, such fusing of the granules would affect the flow through the tube which would almost inevitably vary from one tube to another, an effect that would be deleterious to consistent operation and calibration of the Luckey device. This would appear to frustrate the intended operation of the Luckey device. The Office Action refers to Col. 2, line 39-44, but those lines speak only of heating the end to remove rough edges. These lines say

nothing of heating the middle of the tube where spacers 17A, 17B, 17C, and 17D. One also wonders whether the reagent positioned in this same region might be damaged if heated, thereby making heating highly undesirable, if not for the other reasons discussed above. Finally, Luckey's spacers 17A, 17B, 17C, and 17D, are inert granules, and are not structurally the tubular spacer of Applicant's claim 1. A tubular element should be hollow, whereas the inert granules appear to fill the entire diameter of the Luckey device. Accordingly, Luckey does not anticipate or make obvious these claims.

"Determination of patentability [in product-by-process claims] is based upon the product itself." *In re Thorpe*, 227 USPQ 964, 965–66 (Fed. Cir. 1985). Clearly, Luckey does not provide the same end product.

Anticipation of product by process claims requires, at a minimum, a clear showing of all the non-process elements of the end product, in accord with the well-known rules of anticipation. "Anticipation requires that ... the prior art reference must be enabling, thus placing the alleged disclosed matter in the possession of the public." *Akzo n.v. v U.S. Int'l Trade Commission*, 808 F.2d 1471, 1 USPQ 2d 1241, 1245 (Fed. Cir. 1986) (citing *In re Brown*, 329 F.2d 1006, 1011, 141 USPQ 245, 249 (C.C.P.A. 1964). "There must be no difference between the claimed invention and the reference disclosure..." *Scripps Clinic & Research Foundation v. Genetech Inc.*, 927 F.2d 1565, 18 USPQ 2d 1001, 1010 (Fed Cir. 1991). As explained above, Luckey does not even disclose all the clearly specified, non-process elements of the end product.

Furthermore, contrary to the original as well as the amended claim language, Luckey does not show a thermal desorption tube and does not even involve thermal desorption. Luckey utilizes a chemical reaction process whereby the starting products are changed. This is antithetical to a thermal desorption process where it is important that the adsorbed material is

not changed. Clearly, Luckey's reactant is not a sorbent chosen to desorb or release the adsorbed material. Luckey's reactant reacts with alcohol and alters its chemical composition. This is a completely different process and is antithetical to operation of Applicant's device. Likewise, operation of Applicant's device is antithetical to Luckey's reactive operation. Therefore, it would appear that it would be necessary to destroy the intended function of Luckey, as well as utilize different spacing components, in order to modify Luckey to obtain Applicant's invention. It is not obvious to one of skill in the art to make modifications to a device that destroy the intended function of the device for no apparent reason or benefit. Moreover, one of skill in the art would not be motivated to use different elements to create the different function and purpose of Applicant's claimed invention, after observing Luckey. Accordingly, Applicant's amended claims are neither anticipated nor obvious over Luckey.

Claims 1-15 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Handly (US Patent Pub. No 2004/0161856).

A declaration under 37 CFR 1.132 is therefore attached for quicker processing. Although Applicant believes there are significant differences, some of which are discussed below, as noted by the Office Action, the rejection may be overcome by a showing under 37 CFR 1.132 that this application is by the same inventor and is not an invention "by another."

For the record, the cited application of Handly does not teach how to overcome the long standing prior art problem with centerless grinding of desorption tubes that heat fusing ruined the tolerance produced by centerless grinding of thermal desorption tubes, thereby

making them unsuitable for repeatable use with close tolerance fittings. The previous application of Handly does not discuss this problem or include the claimed elements, and may not even discuss centerless grinding. Therefore, it does not anticipate the present application and it does not seem likely that it would be obvious, for one of skill in the art somehow solve a completely different problem, not even discussed in the previous application of Handly, a problem that has been long standing for years without solution, based on the previous application of Handly.

#### ***Claim Rejections – 35 USC §103***

Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luckey in view of Asbridge (US Patent No 2,023,720).

Asbridge teaches nothing about desorption tubes. Asbridge teachings nothing about the problem of fusing destroying the centerless grinding tolerance. Asbridge merely teaches how to perform centerless grinding, which Applicant concedes is well known. As per Graham v John Deere, no one in the prior art has been able to maintain the precision of their centerless ground thermal desorption tubes and still use techniques such as fusing of the spacers therein. Asbridge cannot explain why Applicant is the first and only to do so, even though centerless grinding is well known and known to be very useful in making desorption tubes of high tolerance to provide repeatable sealed insertion of the tubes.

Moreover, neither Asbridge, Luckey, nor Coupek disclose a sorbent material has anything to do with these requirements for thermal desorption, does not teach these limitations, and doe not even involve thermal desorption. Lucky utilizes a reactant that does

not desorb at all. Lucky does not show a sorbent as claimed. It is not obvious to one of skill in the art to make modifications that destroy the intended function of the underlying device.

Finally, there is no motivation to make the claimed process. The Office Action asserts that centerless grinding is desirable for uniform heating along the axis of the Luckey tube. However, as discussed previously, heating along the axis of the Luckey tube will be deleterious to the operation of the Luckey device. Not surprisingly, there is no explicit teaching in Lucky to heat along the axis. Instead, Lucky teaches heating the end of the tube to remove the sharp edges. Moreover, as explained hereinbefore, such heating would damage the centerless grinding tolerance. Most likely, such heating would also damage the reactant. As well, fusing glass elements within the Luckey tube must cause flow to vary from one tube to the next, causing the calibration to be variable, and generally frustrate operation of the Luckey device, with no discernable benefits. Therefore, any motivation for the proposed combination is highly questionable.

In order to establish a *prima facie* case under 35 U.S.C. 103(a) all the claim limitations must be taught or suggested by the prior art. The showing must be clear and particular. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2s at 1232. See M.P.E.P. 2143.03. ***In re Oetiker***, 24 USPQ 2d 1443, 1446 (Fed. Cir. 1992). The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge cannot come from the applicant's invention itself. Coupek is clearly non-analogous art. In light of the fact that the prior art does not show the claimed combination of elements even in combination, that the prior art devices

would have to be destroyed in functionality to create Applicant's device, that the long-standing problem was not solved until Applicant created the invention of claims 16-20, it is apparent these claims are not obvious over the cited art.

***Claim Rejections – 35 USC §103***

Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Handly (U.S. Patent Pub. No. 2004/0161856) in view of Asbridge (US Patent No 2,023,720).

As discussed above, Handly is removed as a reference by use of a declaration under 37 CFR 1.132. Asbridge is non-analogous art that does not cure this deficiency. Accordingly, the rejection is traversed.

***Double Patenting***

The previous application of Handly does not teach how to overcome the long standing prior art problem that heat fusing ruined the tolerance produced by centerless grinding of thermal desorption tubes. The previous application of Handly does not discuss this problem and does not include the claimed elements. Therefore, it does not seem likely that it would be obvious, for one of skill in the art somehow solve a completely different problem, not even discussed in the previous application of Handly, a problem that has been long standing for years without solution, based on the previous application of Handly.

That said for the record, nonetheless to speed processing; Applicant includes herewith a terminal disclaimer.

**Summary:**

The prior art does not show the claimed combination of elements taken alone or in combination, that the prior art device of Luckey would apparently have to be destroyed in functionality to create Applicant's device, that the long-standing problem was not solved until Applicant created the claimed invention.

For any of the above-listed reasons, it is respectfully submitted that the rejections to claims 1-20 are respectfully traversed. Applicant respectfully proposes that the application now stands in condition for allowance and earnestly requests that a Notice of Allowance be issued forthwith.

Respectfully submitted,



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#### CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being transmitted to the U.S. Patent and Trademark Office, on the 21<sup>st</sup> day of June, 2007.

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